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**Oxidase of Medicago.**—EULER and BOLIN[29] claim to have succeeded in purifying and determining the chemical constitution of the oxidase (laccase) of Medicago. The purification was greatly furthered by the discovery that the substance was not sensitive to high temperatures. By boiling the extracted juice, the protein bodies were thrown down, and by treatment with animal charcoal, the dextrin-like substances withdrawn. They concluded that this pure laccase consists of mono-, di-, and tribasic aliphatic oxy-acids. The presence of the citrate, malate, and mesoxalate of this base was certainly established, and it is almost certain that the glycolate is a fourth salt.

They have already[30] shown that various salts of this type will produce oxidations qualitatively and quantitatively, similar to those produced by the laccase of Medicago. They now extend these tests to the new salts found, and to mixtures of the salts, and find marked agreement between the oxidations produced by them and those produced by laccase.—WILLIAM CROCKER.

**Origin of the cell wall.**—In an extended paper on vegetative cell division in the higher plants, POSTMA[31] pays particular attention to the origin and development of the cell wall. Half of the paper consists of an excellent presentation and discussion of the literature, while the writer's own researches deal with the stomata of *Aneimia fraxinifolia*, root tips of *Allium Cepa*, and stem tips of *Psilotum triquetrum*. In case of the peculiar, isolated stomata of Aneimia, the cell wall is formed as in other vegetative cells, and consequently the problem in the three forms is much the same. While the writer finds that the cell wall arises in greater or less connection with the spindle, the material of the spindle is not believed to furnish all the material for the beginning of the wall. A mother *Hautschicht* splitting into two daughter *Hautschichts*, as sometimes described, could not be found. A single plate with rather small figures is hardly sufficient to illustrate so difficult and so important a problem.—CHARLES J. CHAMBERLAIN.

**Seedlings of monocotyledons.**—EVANS[32] has undertaken a somewhat extensive study of monocotyledonous seedlings and also of the mature embryos. Not only has the structure at various stages been investigated, but also the effect of deep and shallow seed-sowing. The present paper is a record of some of the results, chiefly those in reference to the "plumular meristem"; and a final paper will review all the facts and suggest the conclusions. The facts are to be used, in part, in connection with the question as to the origin of the lateral position of monocotyledonous leaves, which involves the nature of the cotyledon and the origin of the stem. The arrangement of the material is in a series beginning with an illustration "in which the leaves always appear lateral, and ending with as extreme a case of stem suppression as possible." The genera presented in the present paper are Asparagus, Ruscus, Danae, Semele, Polygonatum, and Smilax. —J. M. C.

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[29] EULER, H., AND BOLIN, IVAN, Ueber die Reindarstellung und die chemische Konstitution einer Oxydase. Arkiv for Kemi, Mineralogi, och Geologi **3**:000. 1909.

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[31] POSTMA, G., Bigdrage tot de Kennis van de vegetatieve celdeling bij de hogere plants. Dissertation. pp. 117. *pl. 1.* Groningen: M. de Waal. 1909.

[32] EVANS, W. EDGAR, On the further development during germination of monocotylous embryos; with special reference to their plumular meristem. Notes Roy. Bot. Gard. Edinburg No. 21:1–21. *pls. 53, 54. figs. 8.* 1909.

**Physcia villosa from North America.**—In the HASSE collection of lichens, recently purchased by the New York Botanic Gardens, I found included with the genus Evernia, and labelled *E. prunastri* (L.), a specimen of *Physcia villosa* (Ach.) Duby, collected in 1892 at the Santa Barbara Islands, California, by BLANCH TRASK. The specimen is fertile; the spores normal, bilocular, 5–6 by 13–16 $\mu$. This is the first record for this plant in North America, so far as I am aware. The type came apparently from Peru. Through the kindness of DR. N. L. BRITTON the specimen was forwarded by MR. R. S. WILLIAMS to DR. HASSE, who writes me under date of February 25, 1910: "I have collected the same [plant] near Point Loma, near San Diego, California, and farther north near Newport, Orange Co.—R. HEBER HOWE, JR., *Thoreau Museum, Concord, Mass.*

**The resting nucleus.**—In discussing the structure of the resting nucleus ROSENBERG[33] pays particular attention to the occurrence of distinguishable chromosomes in the resting cells of various parts of plants of several families. These chromosomes, or "prochromosomes," the existence of which has been denied by some writers, he now identifies in about forty new cases, figuring the debatable structures in Nuphar, Helianthus, Atriplex, Lupinus, Pinguicula, and Drosera. The paper is an added argument for the theory of the individuality of the chromosome.—CHARLES J. CHAMBERLAIN.

**Morphology of Geissoloma.**—STEPHENS[34] has studied the embryo sac and embryo of *Geissoloma marginata*, a small shrub of southwestern South Africa, and representing a family (Geissolomaceae) closely related to Penaeaceae, whose genera he had investigated previously. It proved to be "normal" in these structures, showing none of the peculiarities of Penaeaceae. In general, the results showed an embryo sac derived from one of a row of megaspores, very evanescent antipodal cells, a pear-shaped (later spherical) proembryo, and no suspensor.—J. M. C.

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[33] ROSENBERG, O., Ueber den Bau der Ruhekerns. Svensk. Bot. Tidskrift **3**:163–173. *pl. 5.* 1909.

[34] STEPHENS, E. L., The embryo sac and embryo of *Geissoloma marginata.* New Phytol. **8**:345–348. *pl. 6.* 1909.